

**Notice of Allowability**

Application No.

10/767,264

Examiner

Erica E Cadugan

Applicant(s)

SHIBA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to dkt no. 041535-0307874 filed 1/30/04 and interview of 5/10/05.
2. ☒ The allowed claim(s) is/are 3-8.
3. ☒ The drawings filed on 30 January 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 1/30/04 3 5/4/05
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Jeffrey Karceski on May 10, 2005.

3. The application has been amended as follows:

The abstract has been replaced with the attached abstract provided on a separate page.

Claim 1 has been canceled.

Claim 2 has been canceled.

Claim 3 (Currently Amended). [The] A linear guide apparatus [according to claim 2] for guiding a linear motion of a movable body along a guide rail on a fixed structure in a machine tool, comprising:

a rolling guide means including rolling elements for rolling on respective surfaces of the guide rail; and

a brake means for enhancing the damping capacity of the rolling guide means,

wherein said brake means includes a pair of brake shoes, having a flexible structure, for sliding on the rolling element-rolling surfaces of the guide rail,

wherein an elastic member, biasing each brake shoe so that the brake shoes press on the rolling element-rolling surfaces of the guide rail, is provided in a rear of the respective brake shoe, and

wherein each of the brake shoes has a thin portion that allows a bend of the respective brake shoe by the force applied from the respective elastic member.

Claim 4 (Currently Amended). The linear guide apparatus according to [any one of claims 1 to] claim 3, wherein the sliding surface of each brake shoe is comprised of a resin sliding member.

Claim 5 (Currently Amended). The linear guide apparatus according to [any one of claims 1 to] claim 3, wherein the sliding surface of each brake shoe is comprised of an oil-free metal sliding member.

Claim 6 (Currently Amended). The linear guide apparatus according to claim [1] 3, wherein the rolling elements of the rolling guide means [is a] are rollers.

Claim 7 (Currently Amended). The linear guide apparatus according to claim [1] 3, wherein the rolling elements of the rolling guide means [is a] are balls.

Claim 8 (Currently Amended). The linear guide apparatus according to claim [2 or] 3, wherein each brake shoe is fastened to the brake means by a plurality of adjustment bolts which adjust the pressing force of the respective brake shoe so that it acts evenly on the respective rolling element-rolling surface of the guide rail.

Abstract of the Disclosure

There is provided a linear guide apparatus which, owing to the use of a gap-free braking device in a rolling guide, has a sufficiently high damping capacity. The linear guide apparatus for guiding a linear motion of a movable body along a guide rail on a fixed structure in a machine tool, includes: a rolling guide section including a rolling element for rolling on a rolling element-rolling surface of the guide rail; and a brake section for enhancing the damping capacity of the rolling guide section, the brake section including a pair of brake shoes, having a flexible structure, for sliding on the rolling element-rolling surface of the guide rail.

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4. The following is an examiner's statement of reasons for allowance:

Note for example that U.S. Pat. No. 5,273,367 to Tanaka teaches a machine tool having a bed 22 or "fixed structure" on which are mounted guide rails 25 such that "movable body" or table 23 moves along the guide rails 25 (see Figure 4, for example, also col. 3, lines 59-63, for example). Tanaka teaches a "rolling guide means" 27 with rolling elements 34 (Figures 4, 6), which rolling elements 34 can be either cylindrical or spherical (re claims 6-7), see col. 7, lines 14-18). Tanaka also teaches a "brake means" 47 (Figures 4-8) that functions to dampen vibrations (col. 4, lines 43-59 and col. 6, lines 24-56, for example). The "brake means" includes at least a pair of "brake shoes" 63 that are biased into contact with the rail 19 via springs 65 (see Figure 7, for example) located at the "rear" of the "shoes". The "brake shoes" are broadly considered to have a "flexible structure", in that they automatically adjust in and out to follow the rail surfaces via the provision of the viscous fluid chamber 54 (see col. 6, lines 24-56, for example).

However, '367 to Tanaka does not teach that "each of the brake shoes has a thin portion that allows a bend of the respective brake shoe by the force applied from the respective elastic member" as set forth in independent claim 3. Also, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of '367, and thus, for at least this reasoning, '367 does not render obvious the present invention as set forth in independent claim 3.

Re EP 861990, it is noted that '990 teaches a guide rail 10 used for guiding a movable body 20 (Figure 1), wherein the movable body includes a "rolling guide means" 24 (Figures 1, 2) including "rolling elements" 34a, b, 36a, b (Figure 2) that roll on surfaces of the guide rail 10

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(Figure 2). Additionally, '990 teaches a "brake means" 26 (Figures 1, 3) including a pair of "brake shoes" (shown in Figure 3 as 72). It is noted that each of the brake means 26 includes a thin portion that allows it to flex when fluid is applied to the pressure chambers 86 (Figure 3, abstract).

However, firstly, '990 does not teach that an "elastic member, biasing each brake shoe so that the brake shoes press on the rolling element-rolling surfaces of the guide rail, is provided in a rear of the respective brake shoe" as set forth in independent claim 3 (but instead teaches the application of a fluid to chambers 86 located at the rear of the brake shoes to bias the brake shoes). Secondly, it is noted that the brake shoe pressing portion (shown at 74 in Figure 3) does not press on the "rolling element-rolling surfaces of the guide rail" as claimed in independent claim 3 (see Figures 2-3). Instead, the brake shoe presses on the guide rail at a location between the "rolling element-rolling surfaces of the guide rail" (see Figures 2-3).

Also, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of '990, and thus, for at least this reasoning, '990 does not render obvious the present invention as set forth in independent claim 3.

Examiner also notes that U.S. Patent No. 5,268, 970 to Tanaka and DE 4116795 (see Figure 3, for example) teach similar guide rails with braking systems, but neither '970 nor '795 teach that "each of the brake shoes has a thin portion that allows a bend of the respective brake shoe by the force applied from the respective elastic member" as set forth in independent claim 3, nor is there any combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of either '970 or '795, and thus,

for at least this reasoning, neither '970 nor '795 anticipate or render obvious the present invention as set forth in independent claim 3.

The aforementioned prior art being exemplary of the closest prior art of record to the present invention as set forth in independent claim 3, the prior art of record neither anticipates nor renders obvious the present invention as set forth in independent claim 3.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Information Disclosure Statement***

5. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Specifically note that the specification mentions JP-2000-9655, not cited.

#### ***Conclusion***

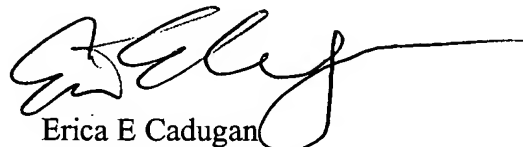
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (571) 272-4474. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris H. Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erica E Cadugan  
Primary Examiner  
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